MEMPHIS INTL ARPT TN	
Latitude = 35.05 N	WMO No. 723340
Longitude = 90.00 W	Elevation = 285 feet
Period of Record = 1973 to 1996	Average Pressure = 29.73 inches Hg

Design Criteria Data

		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	98	78	115	8.5	W
0.4% Occurrence	96	78	115	8.7	WSW
1.0% Occurrence	94	78	118	8.8	WSW
2.0% Occurrence	92	77	116	9.0	SW
Mean Daily Range	18	-	-	-	-
97.5% Occurrence	27	24	13	9.2	N
99.0% Occurrence	21	19	10	9.9	N
99.6% Occurrence	17	15	8	10.0	N
Median of Extreme Lows	12	10	6	9.8	N
		Mean Coincident (Average) Values			
Wet Bulb Temperature (T_{wb})	**Design Value (^oF)**	Dry Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	83	94	153	8.8	WSW
0.4% Occurrence	81	93	141	8.5	WSW
1.0% Occurrence	80	91	137	8.4	SW
2.0% Occurrence	79	90	132	8.5	WSW
		Mean Coincident (Average) Values			
Humidity Ratio (HR)	**Design Value (gr/lb)**	Dry Bulb Temperature (^oF)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	152	89	1.00	8.3	S
0.4% Occurrence	142	86	0.94	7.6	S
1.0% Occurrence	137	86	0.90	8.5	S
2.0% Occurrence	133	83	0.88	8.2	S
Air Conditioning/		$T \geq 93^oF$	$T \geq 80^oF$	$T_{wb} \geq 73^oF$	$T_{wb} \geq 67^oF$
Humid Area Criteria	# of Hours	153	1648	1566	2867

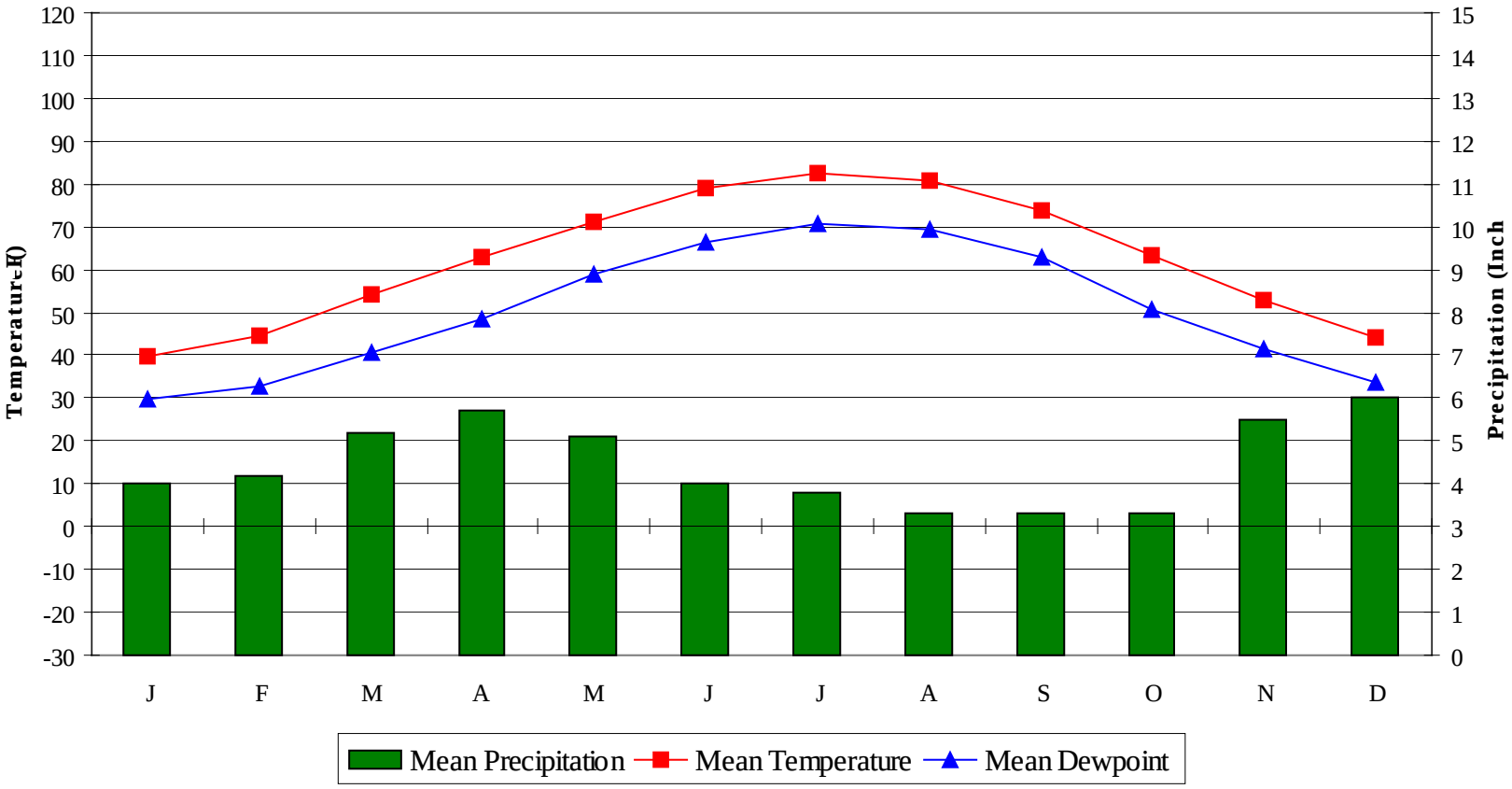
Other Site Data

Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75^oF-RH 60% Latent + Sensible
11	3.5	90	5.1 + 1.8
Ground Water Temperature (^oF) 50 Foot Depth *	**Frost Depth 50 Year Recurrence (in.)**	**Ground Snow Load 50 Year Recurrence (lb/ft^2)**	**Average Annual Freeze-Thaw Cycles (#)**
65.0	9	6	29

*Note: Temperatures at greater depths can be estimated by adding 1.5^oF per 100 feet additional depth.

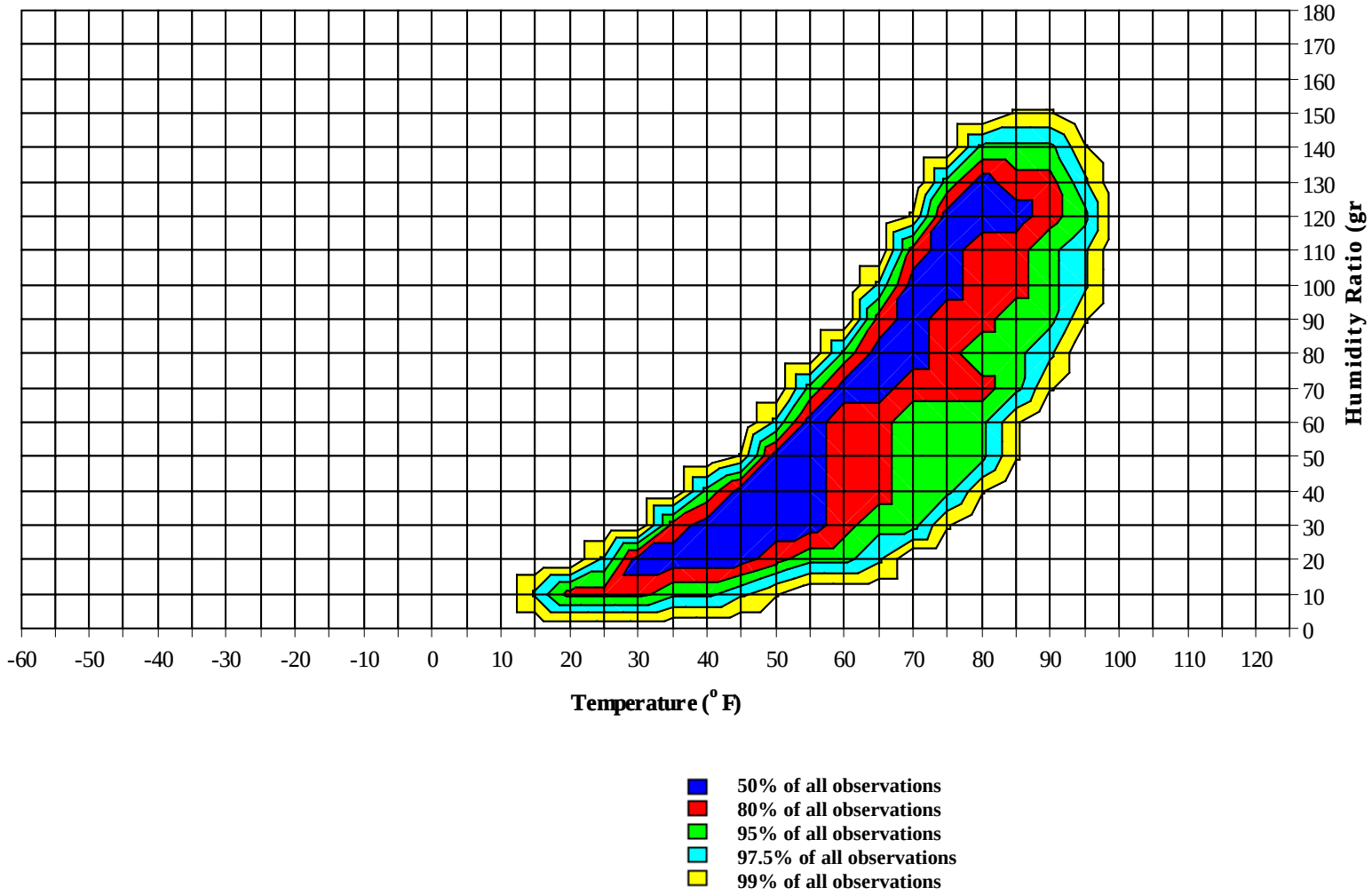
MEMPHIS INTL ARPT **TN** WMO No. 723340

Average Annual Climate



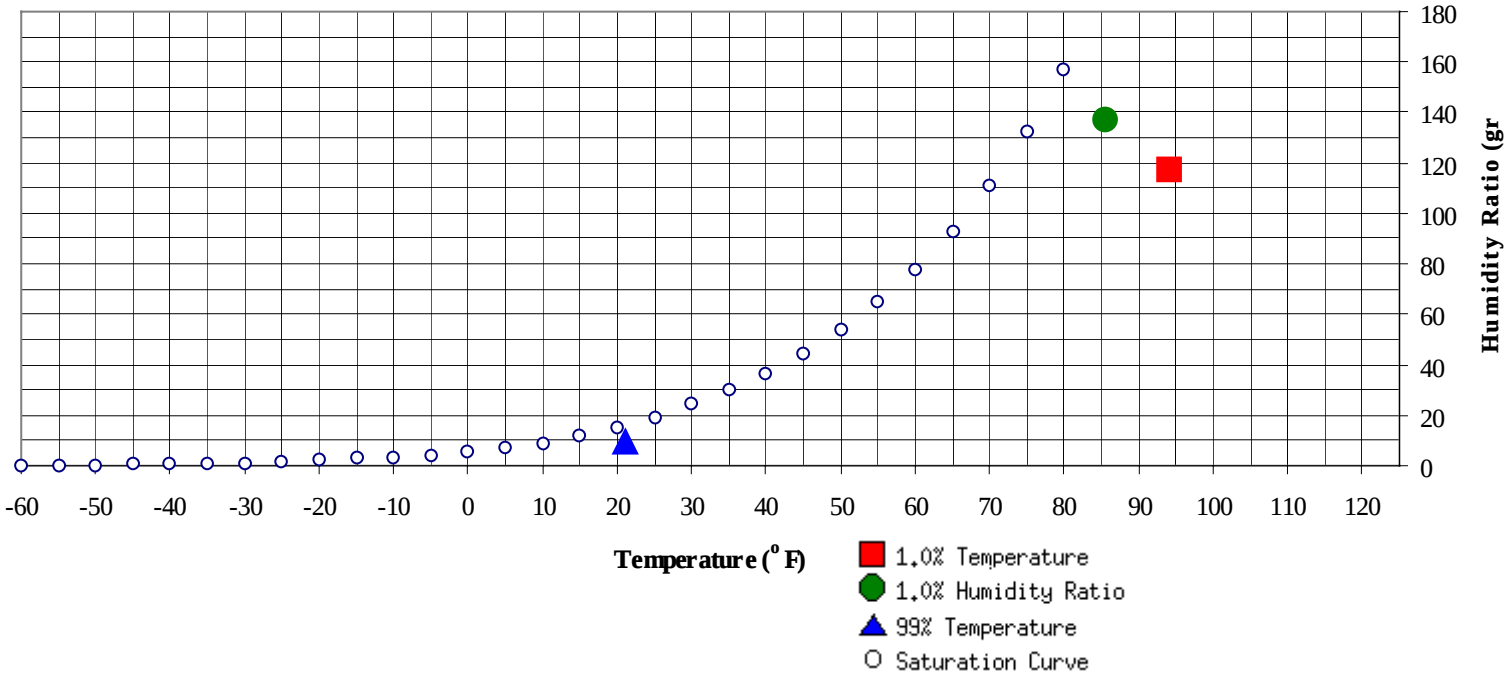
MEMPHIS INTL ARPT TN WMO No. 723340

Long Term Psychrometric Summary



MEMPHIS INTL ARPT **TN** WMO No. 723340

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	21	9.7	6.5

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	137.2	85.4	78.5	75.9	42.0

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	94	117.6	77.6	41.1

MEMPHIS INTL ARPT TN WMO No. 723340

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	January					February					March				
	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB
	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89												0		0	63.0
80 / 84												4	1	5	63.4
75 / 79		0		0	66.0		3	0	3	60.6		16	7	23	62.7
70 / 74		2	0	3	63.6	0	9	4	13	60.4	5	29	20	53	60.9
65 / 69	2	7	5	14	59.9	4	19	11	34	57.8	16	36	29	81	57.9
60 / 64	6	15	9	30	56.0	10	24	17	51	55.0	26	37	37	100	54.3
55 / 59	7	20	15	42	50.9	16	27	24	67	50.6	34	34	37	106	50.4
50 / 54	14	29	24	67	46.7	21	27	27	75	46.2	41	33	38	112	46.2
45 / 49	22	33	30	86	42.0	28	27	33	88	42.2	35	24	30	88	41.9
40 / 44	33	41	39	114	38.3	31	25	32	88	37.9	38	18	26	82	37.5
35 / 39	49	39	46	134	33.7	35	24	28	87	33.3	29	10	16	54	33.4
30 / 34	44	26	34	104	29.1	33	22	23	78	28.9	16	4	7	27	29.4
25 / 29	38	20	26	83	24.3	24	10	15	49	24.1	6	1	1	8	25.1
20 / 24	18	9	13	39	19.5	13	5	7	25	19.5	2	1	1	4	19.2
15 / 19	9	4	4	17	15.0	6	2	2	10	15.4	0	0	0	0	15.3
10 / 14	4	1	1	6	10.5	2	1	1	4	10.8					
5 / 9	1	0	0	2	6.3	1	0	0	1	5.2					
0 / 4	1	0	1	2	0.7										
-5 / -1	0	0		0	-3.6										

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

MEMPHIS INTL ARPT TN WMO No. 723340

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (°F)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (°F)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (°F)
105 / 109															
100 / 104												0		0	75.2
95 / 99							0	0	0	74.3		7	1	8	76.1
90 / 94		1	0	1	67.4		5	1	6	74.1	0	48	13	61	75.7
85 / 89		6	1	7	67.2	0	36	9	46	72.3	2	73	37	113	74.0
80 / 84		27	10	37	66.4	2	58	30	90	69.8	26	62	64	153	72.3
75 / 79	1	38	23	61	64.3	19	54	51	125	67.5	75	32	67	175	70.7
70 / 74	18	45	41	104	62.2	60	44	60	164	65.4	82	15	42	139	67.9
65 / 69	41	42	45	128	59.1	67	32	52	151	61.9	38	2	12	52	63.0
60 / 64	41	33	40	115	55.1	46	13	27	85	57.2	13	0	2	16	58.8
55 / 59	39	25	35	100	50.6	31	4	15	50	53.0	3	0	0	3	53.7
50 / 54	43	14	24	81	46.8	18	1	3	22	48.8	0			0	50.3
45 / 49	27	7	14	48	42.6	3	0	0	3	44.1					
40 / 44	19	3	6	28	38.4	0			0	39.4					
35 / 39	8	0	2	10	34.2										
30 / 34	1			1	30.1										
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

MEMPHIS INTL ARPT TN WMO No. 723340

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	July Hour Group (LST) 01 To 08	July 09 To 16	July 17 To 00	July Total Obs	July MCWB (°F)	August Hour Group (LST) 01 To 08	August 09 To 16	August 17 To 00	August Total Obs	August MCWB (°F)	September Hour Group (LST) 01 To 08	September 09 To 16	September 17 To 00	September Total Obs	September MCWB (°F)
105 / 109		0	0	0	80.0										
100 / 104		4	1	5	79.5		0	0	0	76.6		0		0	75.1
95 / 99		23	6	29	78.9		17	3	20	78.3		5	1	6	75.6
90 / 94	1	82	31	114	77.7		66	20	86	77.1	0	22	4	26	75.6
85 / 89	10	76	56	142	76.0	3	78	45	126	75.4	0	50	16	66	73.6
80 / 84	63	43	81	186	74.6	40	52	79	172	73.9	7	60	39	106	71.5
75 / 79	108	15	55	178	72.8	102	24	69	195	72.3	46	44	60	150	70.4
70 / 74	53	4	17	75	69.4	74	8	28	109	68.7	65	30	54	149	67.2
65 / 69	12	1	1	14	64.2	24	0	5	29	63.4	47	17	34	98	62.1
60 / 64	1		0	1	59.8	5	0	1	6	58.3	36	9	20	64	57.7
55 / 59						0			0	53.0	22	2	10	35	53.5
50 / 54						0			0	49.0	13	0	3	17	49.2
45 / 49											3		0	3	44.7
40 / 44											0			0	42.5
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

MEMPHIS INTL ARPT TN WMO No. 723340

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	October Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	November Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	December Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
105 / 109															
100 / 104															
95 / 99															
90 / 94		1	0	1	73.7										
85 / 89		8	1	9	70.4										
80 / 84	0	28	5	34	68.0		2		2	62.6		0		0	71.5
75 / 79	3	47	17	67	65.1	0	12	2	14	64.8		1	0	1	68.9
70 / 74	16	48	41	106	63.5	4	24	13	42	63.3	1	5	2	9	65.1
65 / 69	41	44	49	135	60.1	18	32	25	75	60.2	5	15	10	30	61.2
60 / 64	42	35	46	123	55.5	23	34	31	87	56.0	13	21	13	48	56.8
55 / 59	46	21	40	108	52.0	30	36	34	100	50.9	16	27	22	65	51.4
50 / 54	46	10	31	86	47.5	31	37	36	104	46.4	20	40	29	89	46.3
45 / 49	32	2	13	47	43.4	35	30	38	103	42.2	27	37	38	102	42.0
40 / 44	17	1	4	22	39.5	39	19	33	91	37.9	44	42	44	130	38.0
35 / 39	5	1	1	6	34.9	36	9	20	64	33.7	38	26	39	104	33.3
30 / 34	1		0	1	30.2	17	2	7	26	29.2	41	17	26	84	29.0
25 / 29						6	1	2	9	24.7	24	8	13	44	24.3
20 / 24						1	0	0	2	19.9	9	4	5	19	19.5
15 / 19											5	2	4	11	15.5
10 / 14											3	1	1	4	10.5
5 / 9											1	0	1	2	5.6
0 / 4											1	0	0	1	0.7
-5 / -1											0	0		1	-3.1

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

MEMPHIS INTL ARPT TN WMO No. 723340

Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

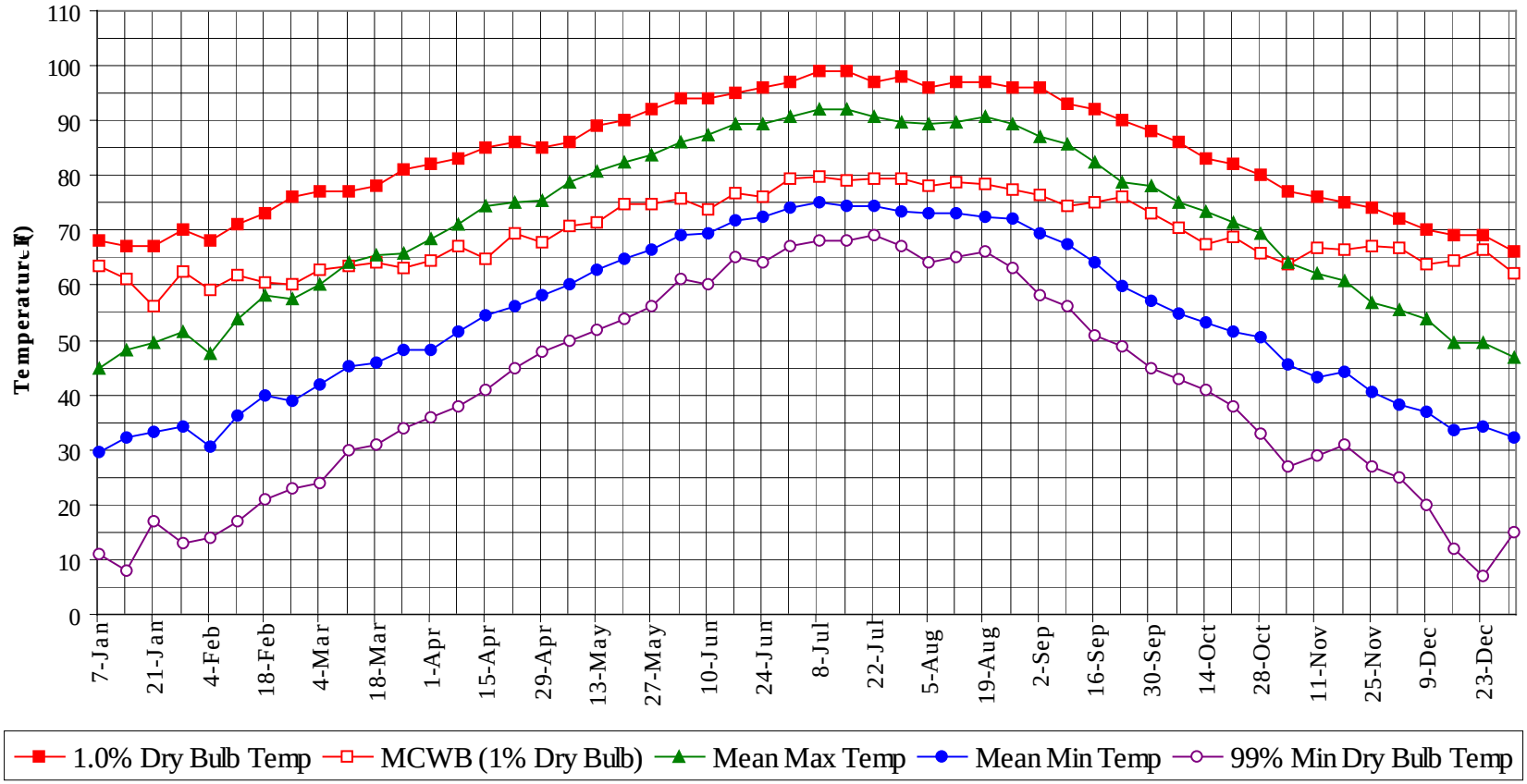
Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
105 / 109		0	0	0	80.0
100 / 104		5	1	6	78.8
95 / 99		52	11	63	78.0
90 / 94	1	224	69	294	76.8
85 / 89	16	327	165	508	74.5
80 / 84	139	337	309	785	72.2
75 / 79	354	287	351	991	69.9
70 / 74	379	262	323	964	65.7
65 / 69	315	248	280	842	60.6
60 / 64	262	222	243	727	55.9
55 / 59	244	198	233	676	51.3
50 / 54	247	191	216	654	46.7
45 / 49	212	160	197	570	42.2
40 / 44	222	149	183	554	38.0
35 / 39	200	109	150	460	33.5
30 / 34	154	71	97	322	29.1
25 / 29	98	39	57	194	24.3
20 / 24	42	19	27	88	19.5
15 / 19	21	8	10	39	15.3
10 / 14	9	2	3	14	10.6
5 / 9	3	1	1	5	5.8
0 / 4	2	1	1	3	0.7
-5 / -1	1	0		1	-3.3

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

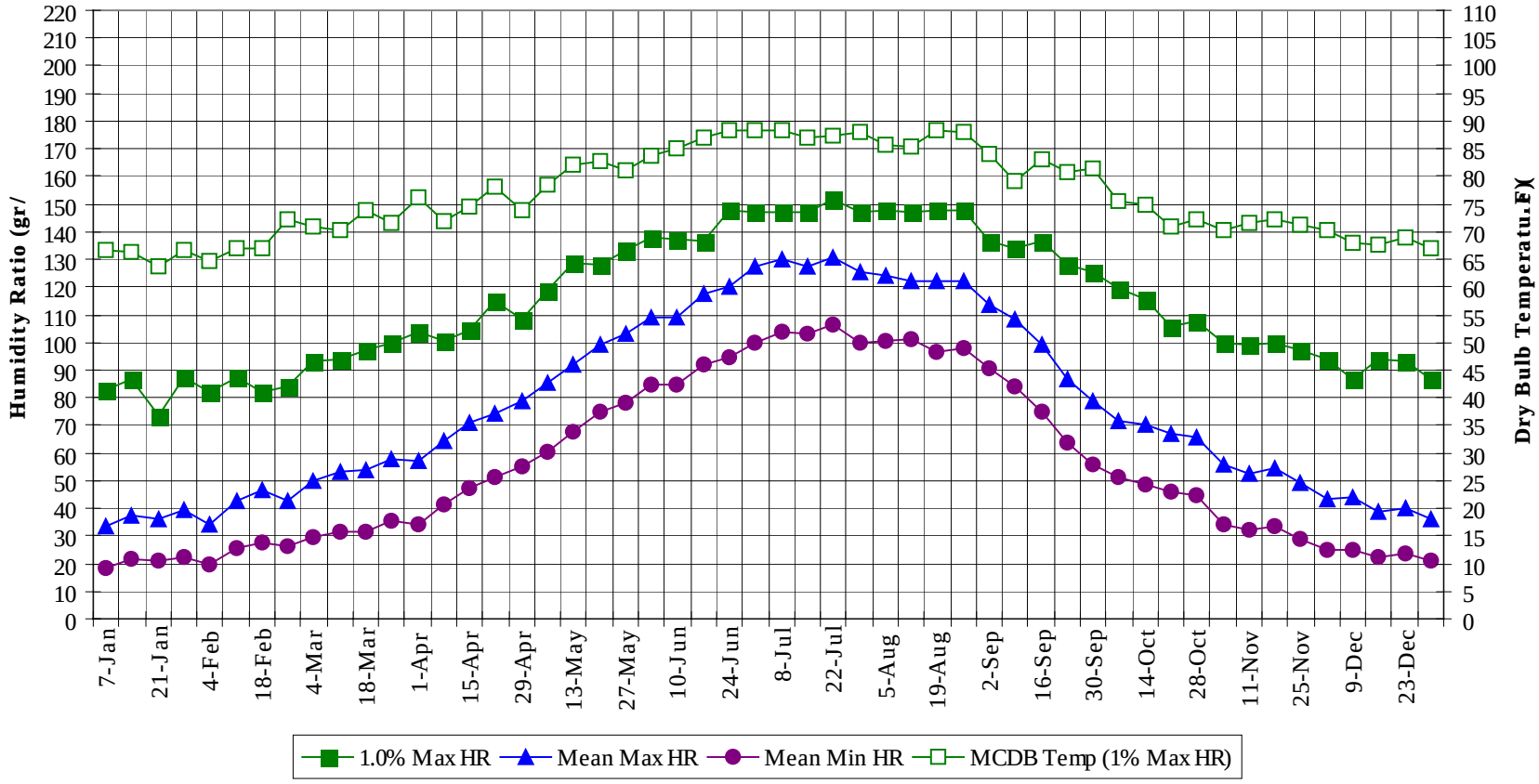
MEMPHIS INTL ARPT TN WMO No. 723340

Annual Summary of Temperatures



MEMPHIS INTL ARPT TN WMO No. 723340

Long Term Humidity and Dry Bulb Temperature Summary



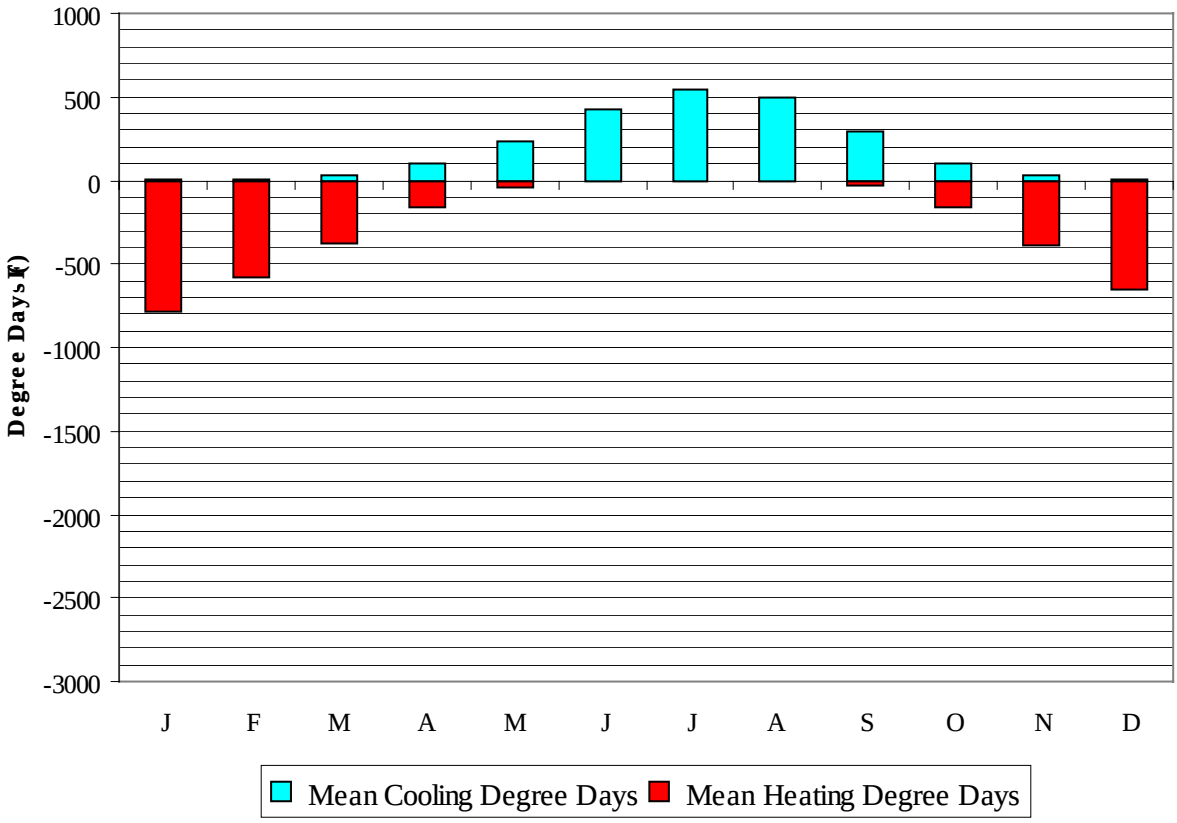
MEMPHIS INTL ARPT TN WMO No. 723340

Long Term Dry Bulb Temperature and Humidity Summary

Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	68.0	63.6	44.9	29.4	11.0	82.6	66.5	33.5	18.3
14-Jan	67.0	61.2	48.2	32.4	8.0	86.8	66.4	37.2	22.0
21-Jan	67.0	56.1	49.6	33.3	17.0	73.5	63.7	36.1	20.9
28-Jan	70.0	62.5	51.4	34.1	13.0	87.5	66.5	39.2	22.5
4-Feb	68.0	59.2	47.6	30.7	14.0	81.9	64.6	33.8	19.4
11-Feb	71.0	61.7	53.8	36.3	17.0	87.5	66.8	43.0	25.3
18-Feb	73.0	60.6	58.2	39.7	21.0	81.9	67.1	46.3	27.4
25-Feb	76.0	60.1	57.6	39.0	23.0	84.0	72.2	42.5	26.1
4-Mar	77.0	62.8	60.3	41.7	24.0	93.1	70.8	49.9	29.9
11-Mar	77.0	63.3	64.2	45.1	30.0	93.8	70.3	53.0	31.3
18-Mar	78.0	64.1	65.4	45.7	31.0	97.3	73.8	53.7	31.4
25-Mar	81.0	63.1	66.0	48.1	34.0	100.1	71.5	57.8	35.4
1-Apr	82.0	64.4	68.3	48.0	36.0	103.6	76.2	56.8	34.0
8-Apr	83.0	67.2	71.0	51.5	38.0	100.8	72.0	64.2	41.3
15-Apr	85.0	64.9	74.3	54.6	41.0	104.3	74.4	71.1	47.3
22-Apr	86.0	69.4	75.1	56.3	45.0	114.8	78.3	73.9	51.1
29-Apr	85.0	67.8	75.3	58.1	48.0	108.5	74.0	78.8	55.1
6-May	86.0	70.6	78.7	60.1	50.0	119.0	78.5	85.7	60.7
13-May	89.0	71.6	80.7	62.8	52.0	128.8	82.2	92.2	67.6
20-May	90.0	74.9	82.3	64.9	54.0	128.1	82.8	98.9	74.8
27-May	92.0	74.7	83.8	66.6	56.0	133.0	81.3	103.2	78.3
3-Jun	94.0	75.7	86.2	69.0	61.0	137.9	83.9	109.3	84.6
10-Jun	94.0	73.8	87.5	69.4	60.0	137.2	85.1	109.0	85.0
17-Jun	95.0	76.9	89.3	71.7	65.0	136.5	86.9	117.6	91.9
24-Jun	96.0	76.0	89.5	72.4	64.0	147.7	88.4	120.5	94.3
1-Jul	97.0	79.5	90.7	74.2	67.0	147.0	88.5	127.3	99.5
8-Jul	99.0	79.9	91.9	75.1	68.0	147.0	88.5	129.9	103.7
15-Jul	99.0	79.0	92.0	74.6	68.0	147.0	87.1	127.4	103.1
22-Jul	97.0	79.5	90.8	74.5	69.0	151.9	87.4	130.8	106.7
29-Jul	98.0	79.6	89.9	73.5	67.0	147.0	88.1	125.6	99.8
5-Aug	96.0	78.1	89.5	73.0	64.0	147.7	85.8	124.1	100.2
12-Aug	97.0	78.6	89.8	73.0	65.0	147.0	85.5	122.2	100.9
19-Aug	97.0	78.4	90.6	72.6	66.0	147.7	88.2	122.0	96.7
26-Aug	96.0	77.3	89.4	72.0	63.0	147.7	87.9	121.9	98.1
2-Sep	96.0	76.5	87.2	69.5	58.0	136.5	84.1	113.5	90.9
9-Sep	93.0	74.5	85.6	67.5	56.0	133.7	79.2	108.6	84.1
16-Sep	92.0	75.2	82.3	64.0	51.0	136.5	83.2	99.2	74.8
23-Sep	90.0	76.2	78.6	59.9	49.0	128.1	80.7	87.0	63.5
30-Sep	88.0	73.1	78.1	57.2	45.0	125.3	81.6	78.5	55.6
7-Oct	86.0	70.6	75.0	54.8	43.0	119.7	75.5	71.5	51.1
14-Oct	83.0	67.4	73.4	53.1	41.0	115.5	74.9	70.4	48.5
21-Oct	82.0	68.8	71.4	51.5	38.0	105.7	71.0	66.7	45.9
28-Oct	80.0	65.9	69.5	50.4	33.0	107.8	72.1	65.6	44.8
4-Nov	77.0	63.8	64.0	45.6	27.0	100.1	70.2	55.9	34.3
11-Nov	76.0	66.9	62.2	43.2	29.0	99.4	71.7	52.4	32.5
18-Nov	75.0	66.5	60.9	44.1	31.0	100.1	72.2	54.3	33.3
25-Nov	74.0	67.1	56.9	40.4	27.0	97.3	71.3	49.1	28.7
2-Dec	72.0	66.7	55.5	38.4	25.0	93.8	70.2	43.6	25.2
9-Dec	70.0	63.7	53.8	37.0	20.0	86.8	67.9	43.7	24.9
16-Dec	69.0	64.5	49.6	33.5	12.0	93.8	67.8	39.1	22.1
23-Dec	69.0	66.5	49.6	34.3	7.0	93.1	69.0	40.3	23.9
31-Dec	66.0	62.2	46.9	32.4	15.0	86.8	67.0	36.4	21.3

MEMPHIS INTL ARPT TN WMO No. 723340

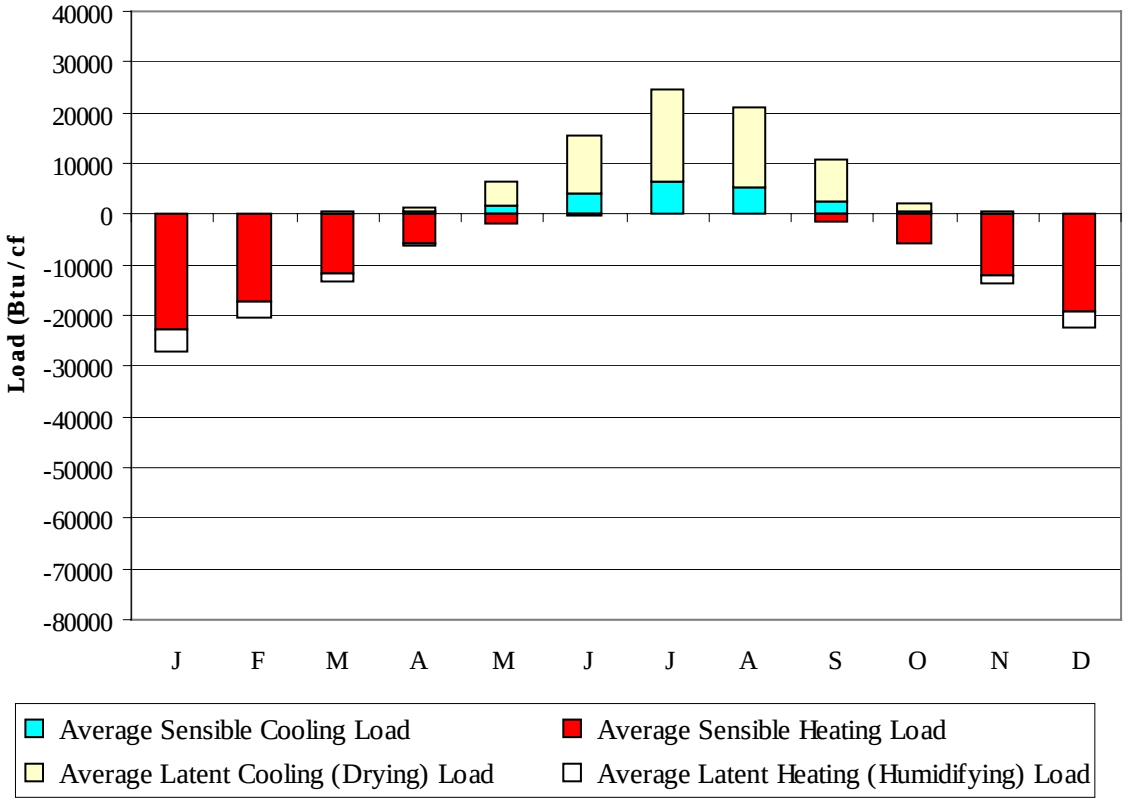
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	2	789
FEB	7	586
MAR	35	373
APR	102	163
MAY	234	40
JUN	423	3
JUL	548	0
AUG	494	1
SEP	297	29
OCT	106	160
NOV	25	392
DEC	5	656
ANN	2279	3192

MEMPHIS INTL ARPT TN WMO No. 723340

Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
JAN	0	-22826	33	-4084
FEB	3	-17277	54	-3043
MAR	72	-11662	275	-1529
APR	477	-5648	992	-372
MAY	1581	-1731	4835	-11
JUN	4227	-174	11259	0
JUL	6477	-16	18157	0
AUG	5368	-63	15494	0
SEP	2498	-1250	8120	-3
OCT	494	-5595	1714	-195
NOV	35	-12177	455	-1424
DEC	3	-19349	159	-3192
ANN	21235	-97768	61547	-13853

Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: MEMPHIS
State: TN
WBAN No: 13893
Lat(N): 35.05
Long(W): 89.98
Elev(ft): 285

Stn Type: Secondary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.394
Vert Gap: 0.286

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	780	1020	1340	1710	1940	2100	2060	1890	1530	1250	850	690	1430
	Std Dev	60	80	116	118	137	119	121	115	91	96	73	67	37
	Minimum	670	880	1150	1460	1660	1830	1790	1690	1360	1000	630	580	1360
	Maximum	930	1200	1590	1910	2220	2340	2330	2110	1740	1460	950	800	1520
	Diffuse	360	450	580	700	800	840	830	760	650	460	380	330	600
Clear Day	Global	1100	1440	1880	2290	2520	2600	2520	2300	1940	1510	1140	980	1850
NORTH	Global	230	290	370	450	560	640	600	500	400	320	240	210	400
	Diffuse	230	290	370	440	500	540	520	470	400	320	240	210	380
Clear Day	Global	210	270	340	430	590	680	630	480	380	300	230	200	400
EAST	Global	500	630	790	970	1060	1140	1130	1070	890	770	530	450	830
	Diffuse	280	350	450	540	610	640	640	590	500	400	290	250	460
Clear Day	Global	790	970	1180	1340	1410	1410	1370	1300	1160	970	780	710	1120
SOUTH	Global	1100	1140	1080	940	770	700	740	910	1070	1290	1110	1030	990
	Diffuse	380	430	500	530	550	560	560	570	540	480	390	350	490
Clear Day	Global	1980	1950	1700	1260	920	770	820	1080	1470	1780	1880	1920	1460
WEST	Global	510	650	810	980	1080	1130	1110	1060	900	770	550	460	830
	Diffuse	280	350	450	540	620	650	640	600	510	400	300	250	470
Clear Day	Global	790	970	1180	1340	1410	1410	1370	1300	1160	970	780	710	1120

Average Annual Solar Heat and Illumination – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9

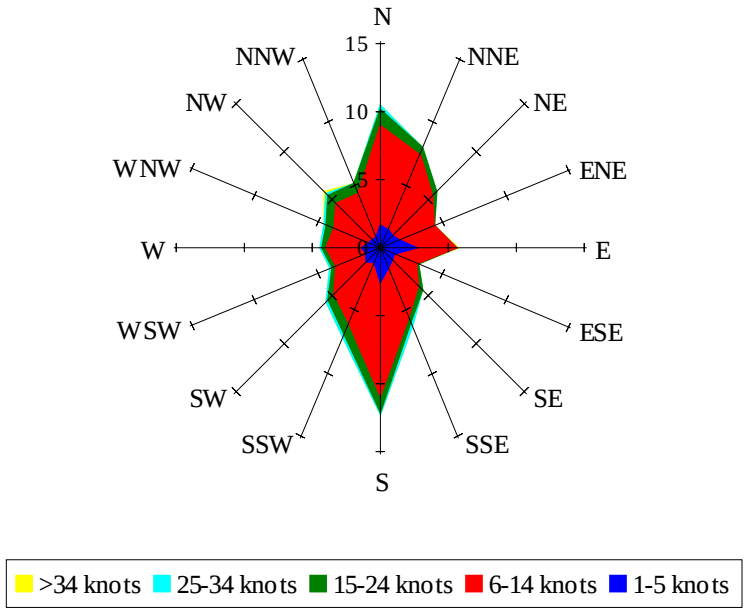
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	520	710	960	1230	1410	1530	1510	1380	1100	880	570	450	1020
NORTH	Unshaded	160	200	250	310	370	410	390	330	280	220	170	140	270
	Shaded	150	180	230	280	340	380	360	310	260	210	160	130	250
EAST	Unshaded	350	440	560	690	750	810	800	760	630	540	370	310	590
	Shaded	320	400	510	630	680	730	720	690	580	500	340	280	530
SOUTH	Unshaded	820	820	730	590	470	430	450	560	700	910	820	770	670
	Shaded	800	780	610	430	350	360	360	400	550	820	800	760	580
WEST	Unshaded	350	460	570	700	770	800	790	750	640	550	380	310	590
	Shaded	330	420	520	630	690	720	710	680	580	500	350	290	530

AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9

		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	44	79	87	69	28	47	86	103	96	67
	M.Cloudy	25	47	53	43	17	33	63	79	75	51
NORTH	M.Clear	10	15	15	13	8	21	17	17	18	16
	M.Cloudy	10	16	18	15	7	16	18	19	19	16
EAST	M.Clear	78	57	15	13	8	75	72	30	18	16
	M.Cloudy	28	31	18	15	7	41	50	28	19	16
SOUTH	M.Clear	40	70	78	62	26	13	27	39	35	16
	M.Cloudy	18	35	41	32	12	12	24	33	31	16
WEST	M.Clear	10	15	25	70	68	13	17	17	54	77
	M.Cloudy	10	16	21	35	24	12	18	19	43	52
M.Clear	(% hrs)	33	34	35	34	34	48	45	36	37	42
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	30	71	89	81	48	21	49	55	35	3
	M.Cloudy	18	44	61	58	33	11	28	31	20	3
NORTH	M.Clear	9	16	17	17	13	7	11	11	9	2
	M.Cloudy	8	16	19	18	12	5	11	12	8	1
EAST	M.Clear	64	70	28	17	13	50	41	11	9	2
	M.Cloudy	23	36	24	18	12	13	19	12	8	1
SOUTH	M.Clear	20	54	70	63	34	46	84	90	66	9
	M.Cloudy	11	30	45	42	22	12	29	32	22	3
WEST	M.Clear	9	16	17	55	72	7	11	25	54	14
	M.Cloudy	8	16	19	38	38	5	11	15	19	3
M.Clear	(% hrs)	48	49	40	39	46	35	34	35	35	38

Wind Summary - December, January, and February

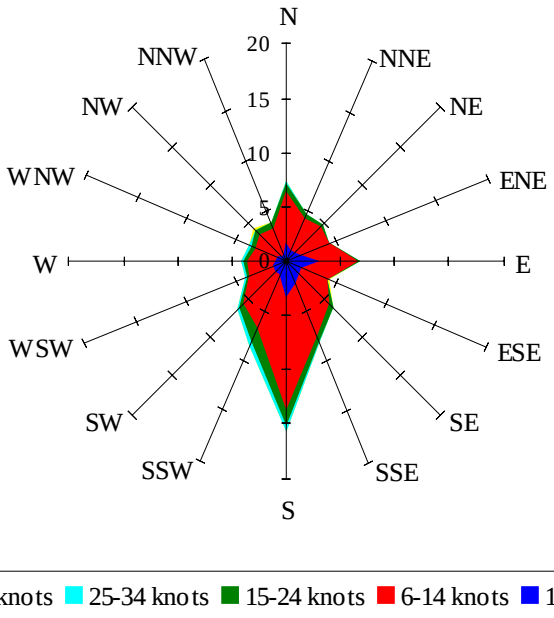
Labels of Percent Frequency on North Axis



Percent Calm = 4.74

Wind Summary - March, April, and May

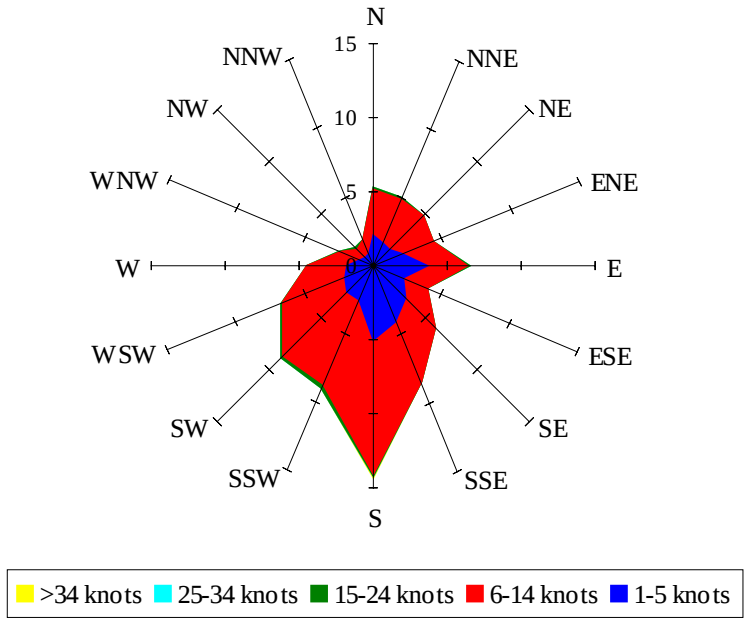
Labels of Percent Frequency on North Axis



Percent Calm = 4.80

Wind Summary - June, July, and August

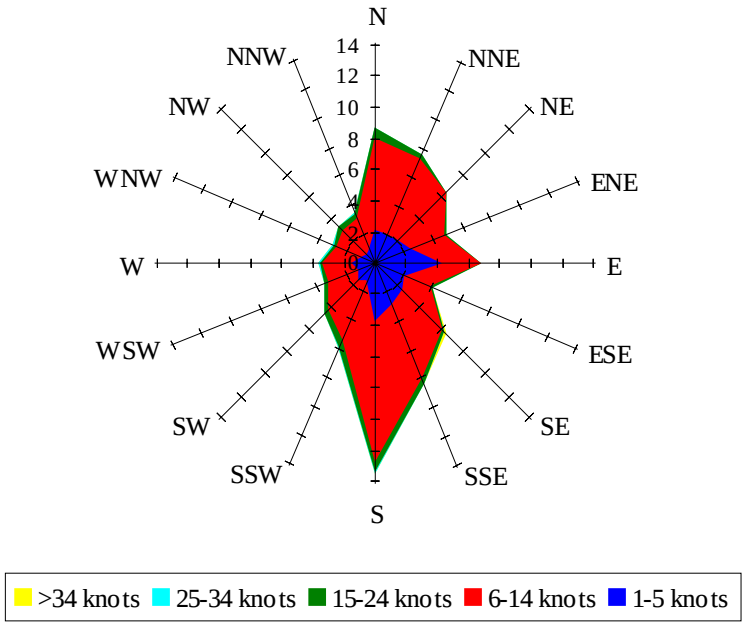
Labels of Percent Frequency on North Axis



Percent Calm = 6.43

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.64